I CLAIM:

1. A Nuclear Myosin I β protein comprising a 16 amino acid N-terminal extension added to a cytoplasmic Myosin I β protein amino acid sequence.

2. The Nuclear Myosin I β protein of claim 1 wherein the amino acid sequence comprises:

mryrasalgs dgvrvtmesa ltardrvgvq dfvllenfts
eaafienlrr rfrenliyty igpvlvsvnp yrdlqiysrq
hmeryrgvsf yevpphlfav adtvyralrt errdqavmis
gesgagktea tkrllqfyae tcpapergga vrdrllqsnp
vleafgnakt lrndnssrfg kymdvqfdfk gapvgghils
ylleksrvvh qnhgernfhv fyqlleggee etlrrlgler
npqsylylvk gqcakvssin dksdwkvmrk alsvidfted
evedllsiva svlhlgnihf aadedsnaqv ttenqlkylt
rllgvegttl realthrkii akgeellspl nleqaayard
alakavysrt ftwlvrkinr slaskdaesp swrsttvlgl
ldiygfevfq hnsfeqfcin ycneklqqlf ieltlkseqe
eyeaegiawe pvqyfnnkii cdlveekfkg iisildeecl
rpgeatdltf lekledtvkp hphflthkla dqktrksldr
gefrllhyag evtysvtgfl dknndllfrn lketmcssmn
pimaqcfdks elsdkkrpet vatqfkmsll qlveilrske
payircikpn dakqpgrfde vlirhqvkyl glmenlrvrr
agfayrrkye aflqrykslc petwpmvagr pqdgvavlvr
hlgykpeeyk mgrtkifirf pktlfateds levrrqslat
kiqaawrgfh wrqkflrvkr saiciqswwr gtlgrrkaak
rkwaaqtirr lirgfilrhs prcpenaffl dhvrasflln
lrrqlprnvl dtswptpppa lreasellre lcmknmvwky
crsispewkq qlqqkavase ifkgkkdnyp qsvprlfist
rlgteeispr vlqslgsepi qyavpvvkyd rkgykprprq
llltpsavvi vedakvkqri dyanltgisv sslsdslfvl
hvqrednkqk gdvvlqsdhv ietltktals adrvnninin
qgsitfaggp grdgiidfts gsellitkak nghlavvapr
lnsr.

Sub A2

3. An oligonucleotide sequence encoding the Nuclear Myosin I β of claim 1.

4. A cDNA molecule with the following nucleotide sequence:

1 ggagcggggc gccgggtccg gcaggatgcg ctaccgggca tcggccctgg gcagtgacgg
61 ggttcgagtg accatggaga gcgccttgac tgcccgagac cgggtagggg tgcaggactt
121 tgtcctgctg gagaatttca ccagtgaggc tgccttcatt gagaacctcc ggcggcggtt
181 ccgggagaac ctcatttata cctacatcgg tcctgtccta gtctctgtca atccctaccg
241 agacctacag atctacagcc ggcagcatat ggaacgctac cgtggtgtca gtttctatga
301 agtaccacct catttgtttg cagtggctga cactgtatac cgggcacttc gtactgagcg
361 tcgggaccag gcagtgatga tttctggaga gagtggggca ggcaagacag aggccaccaa
421 gagactgctc cagttctatg cagagacctg cccagcccct gaacggggtg gcgcagtgcg
481 agaccgcctg ttgcagagca accccgtgtt agaggccttt gggaatgcca agactctccg
541 caacgataac tccagccggt ttggaaagta catggatgtg cagtttgact tcaagggtgc
601 ccccgtggga ggccacattc tcagttacct cctggaaaag tcccgggtgg tgcaccaaaa
661 tcacggagag cggaacttcc acgtctttta ccagctactg gagggggcg aggaggagac
721 tctccgtcgg ctgggcttgg aacggaaccc ccagagctac ttgtacctgg tgaagggcca
781 gtgtgccaag gtctcctcca tcaacgacaa gagtgactgg aaggttatga ggaaggcgct
841 gtccgtcatt gacttcactg aggatgaagt ggaggacttg ctcagcatcg

		tggccagcgt				
	901	cctacatctg	ggcaacatcc	actttgctgc	tgacgaggac	agcaatgccc
		aggttactac				
	961	tgagaaccag	ctcaaatatc	tgaccaggct	ccttggtgtg	gaaggtacaa
5		cacttaggga				
	1021	agccctgacc	cacaggaaga	tcatcgccaa	gggggaagag	ctcctgagcc
		cactgaacct				
	1081	tgaacaggcg	gcatatgcaa	gggatgcgct	tgccaaggct	gtgtacagcc
		ggacattcac				
10	1141	ctggctggtc	agaaagatca	ataggtcact	ggcctctaag	gacgctgaga
		gccccagctg				
	1201	gcgaagcacc	acggttcttg	ggctcctgga	catttacggc	tttgaagtgt
		ttcagcataa				
	1261	cagcttcgag	cagttctgca	tcaactactg	caatgagaag	ctgcagcagc
15		tcttcatcga				
	1321	gctgactctc	aagtcggagc	aggaggaata	cgaggctgag	ggcatcgcgt
		gggaacctgt				
	1381	ccagtacttc	aacaacaaga	tcatctgtga	cctggtagag	gagaagttca
		agggcatcat				
20	1441	ctccatcttg	gatgaagagt	gcctgcgtcc	tggggaggcc	acggacctga
		cctttctgga				
	1501	gaagttggag	gacactgtca	agccccaccc	tcacttcctg	acgcacaagc
		tcgctgacca				
	1561	gaagaccagg	aaatccctag	accgagggga	gttccgcctt	ctgcattatg
25		ctggagaggt				
	1621	gacctacagt	gtgactgggt	ttctggataa	aaacaatgac	ctcctcttcc
		ggaacctgaa				
	1681	ggagaccatg	tgcagctcaa	tgaaccccat	catggcccag	tgctttgaca
		agagtgagct				
30	1741	cagtgacaag	aagcggccag	gacggtggc	cacccagttc	aagatgagcc
		tcctgcagct				
	1801	cgtggagatc	ctgaggtcta	aggagcctgc	ctatatccgg	tgcatcaagc

caaacgacgc
1861 caagcagccg ggtcgctttg atgaggtgct catccgacat caggtgaagt
acctgggact
1921 gatggagaat ctgcgcgtgc gcagagctgg ctttgcctat cgtcgcaaat
atgaggcttt
1981 cctgcagagg tacaagtcac tgtgcccaga gacatggccc atgtgggcag
gacggcccca
2041 ggatggtgtg gccgtgttgg tcagacacct cggctacaag ccagaagagt
acaaaatggg
2101 caggactaag atcttcatcc gattccccaa gaccttattt gccacagagg
actccctgga
2161 agtccggcgg cagagtctag ccaccaagat ccaggcggcc tggagggggct
ttcattggcg
2221 acagaaattt ctccgggtga agcgatcagc catctgtatc cagtcatggt
ggcgtggcac
2281 actgggccgg aggaaggcag ccaagaggaa gtgggcagcc cagaccatcc
gtcgactcat
2341 ccgtggcttc attttgcgcc attcaccccg gtgccctgag aatgccttct
tcttggacca
2401 cgtgcgcgcc tcatttttgc ttaacctgag gcggcaactg ccccggaatg
ttctggacac
2461 ctcctggccc acacccccac ctgccctgag agaggcctca gaactgctac
gggaactgtg
2521 catgaagaac atggtgtgga agtactgccg gagcatcagc cctgagtgga
agcagcagct
2581 gcagcaaaag gcggtggcta gtgaaatttt caagggcaag aaggacaact
acccccagag
2641 tgtccccaga ctcttcatta gcacacggct tggcacagag gagatcagcc
ccagagtgct
2701 tcaatccttg ggctctgaac ccatccagta tgccgtgccc gtggtaaaat
acgaccgtaa
2761 gggttacaag cctcgccccc ggcagctgct gctcacgccc agtgctgtgg

tcattgtgga

2821 ggatgctaaa gtcaagcaga gaattgatta tgccaaccta accggaatct

ctgtcagtag

2881 cctgagtgat agcctatttg tgcttcacgt gcagcgtgaa gacaacaagc

agaagggaga

2941 tgtggtgctg cagagtgatc atgtgatcga gacactaacc aagacggccc

tcagtgctga

3001 ccgcgtgaac aatatcaaca tcaaccaggg cagcataacg tttgcagggg

gtccaggcag

3061 ggacggcatc attgacttca catcgggctc agagcttctc atcaccaagg

ctaagaatgg

3121 ccacctggct gtggtggccc cacggctgaa ttctcggtga tgaaggctgc

ggtggaccgc

3181 tcctgactcc tgatgcttcc cttagtcccc tcctcccctc cgacttacca

aaaactcaag

3241 cttccaaaca gggatccatg gacaccctca aaacccacgc tgcaaactcc

tgccttctgc

3301 tcgccccctc ttgaggtgat caggagccag ggagctaccc catgagtggg

ccaggccggg

3361 ccacaccaat agaaaagcag aggcctgagc aggccaggcc agccctctgc

tgatgccaaa

3421 tatctaagac aagggaattt taactgaggt tttctctgag atttttgat

gctttatagg

3481 aaactatttt tttaagaaag ccattttcct accctaaaca cactggatgt

gtttttccct

3541 gcctcgaaca gggcaaggaa tgtaactgaa agactgactg ggctgggctg

gaaggtcctc

3601 ttcttggcca acccttcctt attcccttgt ctgcctgtcc atccacctgc

acctttag

3661 cca.

5. A peptide comprising an amino acid sequence MRYRASALGSDGVRVT.

Sub A2

6. A cDNA molecule encoding the peptide of claim 4.

7. The peptide of claim 5 comprising an epitope with the amino acid sequence FLAG.

8. An antibody directed to the Nuclear Myosin I β protein of claim 2.

9. An antibody directed to the peptide of claim 4.

10. The antibody of claim 7, wherein the antibody is a monoclonal antibody.

11. An antibody directed to the peptide of claim 7.

12. A functional complex formed between one RNA polymerase II.

13. A method for inhibiting cell proliferation, said method comprising:

(a) obtaining at least one antibody to the peptide of claim 5; and

(b) administering the antibody to an organism so that the antibody contacts cells.

14. The method of claim 13 wherein the antibody is a monoclonal antibody.

15. The method of claim 13 wherein the antibody is a synthetic compound.

16. A method for inhibiting cell proliferation, said method comprising

a) obtaining an antisense oligonucleotide to the cDNA of claim 3;

(b) contacting the cDNA with the antisense oligonucleotide to prevent expression of the cDNA and reduce cell proliferation.

17. A method for screening a candidate agent that inhibits transcription, said screening method comprising the antibodies in claim 9.

(a) providing proliferating cells;

(b) contacting the cells with the candidate agent;

(c) determining whether nuclear myosin I β (MNI β) is translocated to the nucleus of the cells; and

(d) inferring that the candidate agent is an inhibitor of cell proliferation if NMI β is not detected in the cells nucleus.